

AMENDMENTS TO THE CLAIMS

The listing of claims below replaces all prior versions, and listings, of claims:

- 1           1.       (Original) A method, comprising:  
2           providing a semiconductor substrate;  
3           forming electrically conductive columns on the semiconductor substrate;  
4           forming electrically conductive rows crossing over the electrically conductive  
5           columns;  
6           forming a plurality of memory components each having a resistance value  
7           corresponding to multiple logical bits; and  
8           forming non-volatile memory cells, each formed by connecting a memory  
9           component between an electrically conductive row and an electrically conductive  
10          column.
- 1           2.       (Original) A method as recited in claim 1, wherein each memory  
2           component is formed to have a resistance value based on a thickness of electrically  
3           resistive material that forms an individual memory component.
- 1           3.       (Original) A method as recited in claim 1, wherein each memory  
2           component is formed to have a resistance value based on an area of electrically resistive  
3           material that forms an individual memory component.
- 1           4.       (Original) A method as recited in claim 1, wherein each memory  
2           component is formed to have a resistance value based on a geometric shape of electrically  
3           resistive material that forms an individual memory component.
- 1           5.       (Original) A method as recited in claim 1, wherein the plurality of  
2           memory components are each formed to have a different resistance value based on a  
3           different area of electrically resistive material that forms a memory component.

1           6.       (Original) A method as recited in claim 1, wherein the plurality of  
2 memory components are each formed to have a resistance value based on a rectangular  
3 geometric shape of electrically resistive material that forms a memory component, at  
4 least some of the rectangular geometric shapes having different resistance values  
5 corresponding to an area of a rectangular geometric shape.

1           7.       (Original) A method as recited in claim 1, wherein forming the  
2 non-volatile memory cells comprises:  
3           forming a first memory cell having a memory component that indicates logical  
4 bits 00 (zero-zero);  
5           forming a second memory cell having a memory component that indicates logical  
6 bits 01 (zero-one);  
7           forming a third memory cell having a memory component that indicates logical  
8 bits 10 (one-zero); and  
9           forming a fourth memory cell having a memory component that indicates logical  
10 bits 11 (one-one).

1           8.       (Original) A method as recited in claim 1, wherein forming the  
2 non-volatile memory cells comprises:  
3           forming a first memory cell that indicates logical bits 00 (zero-zero)  
4 corresponding to a first resistance value based on an area of electrically resistive material  
5 that forms a memory component in the first memory cell;  
6           forming a second memory cell that indicates logical bits 01 (zero-one)  
7 corresponding to a second resistance value based on an area of electrically resistive  
8 material that forms a memory component in the second memory cell;  
9           forming a third memory cell that indicates logical bits 10 (one-zero)  
10 corresponding to a third resistance value based on an area of electrically resistive material  
11 that forms a memory component in the third memory cell; and  
12           forming a fourth memory cell that indicates logical bits 11 (one-one)  
13 corresponding to a fourth resistance value based on an area of electrically resistive  
14 material that forms a memory component in the fourth memory cell.

1           9.     (Original) A method as recited in claim 1, wherein forming the plurality  
2 of memory components comprises forming individual memory components with a  
3 resistor in series with a diode.

1           10.    (Original) A method as recited in claim 1, further comprising configuring  
2 the resistance value of an individual memory component by exposing the memory  
3 component to light.

1           11.    (Original) A method as recited in claim 1, further comprising configuring  
2 the resistance value of an individual memory component by exposing electrically  
3 resistive material forming the memory component to light.

1           12.    (Original) A method as recited in claim 1, further comprising configuring  
2 the resistance value of an individual memory component by exposing the memory  
3 component to heat.

1           13.    (Original) A method as recited in claim 1, further comprising configuring  
2 the resistance value of an individual memory component by exposing electrically  
3 resistive material forming the memory component to heat.

1           14.   (Original) A method as recited in claim 1, wherein forming the  
2 non-volatile memory cells comprises:  
3           forming a first non-volatile memory cell by connecting a first memory component  
4 between an electrically conductive row and a first electrically conductive column, the  
5 first non-volatile memory cell formed as part of a first layer of non-volatile memory cells;  
6 and  
7           forming a second non-volatile memory cell by connecting a second memory  
8 component between the electrically conductive row and a second electrically conductive  
9 column, the second non-volatile memory cell formed as part of a second layer of  
10 non-volatile memory cells.

1           15.   (Withdrawn) A method of making a non-volatile read-only memory  
2 device, comprising:  
3           providing a semiconductor substrate;  
4           forming a first layer on the semiconductor substrate;  
5           forming one or more additional layers over the first layer;  
6           wherein forming an individual layer comprises:  
7                 forming a plurality of conductive traces; and  
8                 forming a plurality of memory components each having a resistance value  
9 corresponding to multiple logical bits where each memory component is connected  
10 between a first conductive trace and a second conductive trace.

1           16.   (Withdrawn) A method of making a non-volatile read-only memory  
2 device as recited in claim 15, wherein the plurality of memory components are each  
3 formed to have a resistance value based on a thickness of electrically resistive material  
4 that forms a memory component.

1           17.   (Withdrawn) A method of making a non-volatile read-only memory  
2 device as recited in claim 15, wherein the plurality of memory components are each  
3 formed to have a resistance value based on an area of electrically resistive material that  
4 forms a memory component.

1           18.   (Withdrawn) A method of making a non-volatile read-only memory  
2 device as recited in claim 15, wherein the plurality of memory components each have a  
3 resistance value based on a geometric shape of electrically resistive material that forms a  
4 memory component, at least some of the geometric shapes having different resistance  
5 values corresponding to an area of the geometric shapes.

1           19.   (Withdrawn) A method of making a non-volatile read-only memory  
2 device as recited in claim 15, wherein forming the plurality of memory components  
3 comprises:  
4           forming a first memory component having a resistance value corresponding to  
5 logical bits 00 (zero-zero);  
6           forming a second memory component having a resistance value corresponding to  
7 logical bits 01 (zero-one);  
8           forming a third memory component having a resistance value corresponding to  
9 logical bits 10 (one-zero); and  
10          forming a fourth memory component having a resistance value corresponding to  
11 logical bits 11 (one-one).

1           20.   (Withdrawn) A method of making a non-volatile read-only memory  
2 device as recited in claim 15, wherein forming the plurality of memory components  
3 comprises forming individual memory components with a resistor in series with a diode.

1           21.   (Withdrawn) A method of making a non-volatile read-only memory  
2 device as recited in claim 15, further comprising configuring the resistance value of  
3 individual memory components by exposing a memory component to light.

1           22.   (Withdrawn) A method of making a non-volatile read-only memory  
2 device as recited in claim 15, further comprising configuring the resistance value of  
3 individual memory components by exposing a memory component to heat.